

VEHICLE SAFETY DEVICE

Field of the Invention

This invention relates in general to a vehicle safety device, and more
5 particularly to a vehicle safety device having upper torso fastener means and
leg fastener means for securing an upper body to a support.

Background to the Invention

In moving vehicles, particularly automobiles, there are federally
10 regulated safety devices. Seat belts are required in all automobiles to
safely restrain a human body in case of an impact or a sudden change of
direction. The seat belts typically consist of lap belts that cross the
stomach area of a body or a three point belt having a lap belt integrated
with an across the chest over the shoulder belt. Neither one of the two
15 belts are suitable for a pregnant body or a body that has a sensitive
abdomen area for other medical or surgical reasons. The present seat
belts are both uncomfortable and unsafe for such travellers.

Therefore, pregnant woman or people with sensitive abdomens will
normally not wear seat belts in a moving vehicle. If they are worn, they are
20 worn incorrectly as they do not fit properly or are fitted improperly across a
pregnant or sensitive abdomen.

In particular, pregnant women are put at risk when they travel. If
they choose to use the present seat belts, they could crush their own unborn
baby under impact. If they do not use a restraining device they also put
25 themselves and their unborn baby or babies at risk. Furthermore, it is a
requirement to wear seat belts in most states, so if pregnant women do not
wear them, they are breaking the law. Regardless, pregnant women are
constantly in fear that if an accident occurs something could happen to their
unborn child with or without the present safety devices. There is nothing
30 present today to safely fasten pregnant women in motor vehicles. This is a
major dilemma, as most pregnant women must travel in automobiles daily.

Thus, there is a need to provide a vehicle safety device for the body that adequately protects the abdomen area, particularly during pregnancy or other times of sensitivity.

5 Summary of the Invention

According to the present invention a vehicle safety device is provided comprising a back support having a front side and a rear side. The rear side of the safety device comprises means for receiving a seat belt to secure the support to the vehicle. Upper torso fastening means and leg fastening
10 means are attached to the support for securing an upper torso of a body to the support.

Brief Description of the Drawing

FIG. 1 shows a front view of a vehicle safety device according to an
15 embodiment of the present invention.

FIG. 2 shows a front view of a vehicle safety device according to an embodiment of the present invention.

FIG. 3 shows a back view of a vehicle safety device according to an embodiment of the present invention.

20 FIG. 4 shows a side cross sectional view of a vehicle safety device according to an embodiment of the present invention.

FIG. 5 shows a front view of a vehicle safety device according to a further embodiment of the present invention.

25 Detailed Description of the Preferred Embodiment

This invention is described with reference to the Figures. FIG. 1 shows a vehicle safety device comprising a back support 2 integrally attached to a leg support 3. The back support 2 and leg support 3 form an L-shape to fit comfortably in a typical motor vehicle seat. The back support 2
30 and leg support 3 may be made of any rigid plastic or composite materials, preferably lightweight yet rigid enough to support a body frame. For

example, the materials to make typical car seats for infants or children may suffice. The back support 2 and leg support 3 may be covered with a soft material and include padding for comfort.

The back support 2 has upper torso fastening means 5, 7 attached to
5 the back support 2 for securing an upper torso of a body to the back support 2. FIG. 1 shows the fastening means as two straps 5, 7 that may thread through a slit or hole 15, 17 in the top of the back support 2 and run diagonally along a rear side 6 of the back support 2 and come through the front side 4 through another slit or hole 15, 17 (See FIG. 3). The upper torso
10 straps 5, 7 attach diagonally across each other as shown in FIG. 2 and may be adjustable.

In FIG. 1 the leg support 3 is shown integrally attached to the back support 2. When in use, the leg support 3 is attached to the back support 2 in an L-shape to fit on a motor vehicle seat. However, for storage purposes
15 or ease of transporting from vehicle to vehicle the leg support 3 may be foldable up to the back support 2. The leg support 3 includes leg fastening means shown as straps 9, 11 attached to the leg support 3 for securing legs of a body to the leg support 3. FIG. 1 shows two leg straps 9, 11. The leg straps 9, 11 may be attached by threading through a slit or hole 19, 21 on an
20 end of the leg support 3 and thread back through another slit or hole 19, 21 a distance away to securely attach an upper thigh of a body to the leg support 3. The leg straps 9, 11 may be adjustable.

FIG. 2 shows the upper torso straps 5, 7 and the leg straps 9, 11 all fastened by simple buckles or clips 25 that attach two ends of the respective
25 straps securely together. The clips are well known in the art and can be of any variety as presently supplied. FIG. 2 shows the upper torso straps 5, 7 as fastening above an abdomen where a pregnant abdomen could comfortably fit below where the upper torso straps 5, 7 cross over each other. The leg straps 9, 11 each fasten across a leg respectively. The configuration
30 of the straps allows a body to be securely fastened in a moving vehicle with

out involving the abdomen and thereby leaving the abdomen free from the risk of being crushed or injured from any seat belt.

The upper torso straps 5, 7 and the leg straps 9, 11 restrain the upper and lower portions of the torso independently. This design allows the
5 abdomen to not be restricted or restrained. There may be multiple adjustment points to properly fit a variety of bodies. The straps may be color-coded for ease of application. A lumbar support may be added to the back support 2 for additional comfort.

FIG. 3 shows the rear side 6 of the back support 2. The rear side 6
10 includes means for receiving a seat belt 42 to secure the support device to the vehicle. The means for receiving the seat belt 42 may be of the kind already known to those skilled in the art. For example, a hole 8 that allows the seat belt 42 to thread through and out another hole 8 on the far side of the rear side 6 of the back support 2 may be used to fasten the back support
15 2 to the vehicle seat, as shown in FIG. 3. Using the vehicle seat belt 42 to attach a children's seat in a vehicle is commonly used in a variety of children's car seats available today. The seat belt 42 may be a typical vehicle safety belt found in most all vehicles today.

In FIG. 3, the upper torso straps 5, 7 are shown crossing each other
20 diagonally on the rear side 6 of the back support 2. The upper torso straps may also attach in different ways on the rear side 6 of the back support 2 as commonly known in different children's car seats. There are various slits 15, 17 available for the upper torso straps 5, 7 to allow for adjustability. The leg straps 9, 11 thread through holes 19, 21 through the rear side 6 of the back
25 support 2 as shown.

FIG. 4 shows a side cross sectional view of the present invention as attached in a vehicle seat 40. The seat belt 42 of the vehicle seat 40 attaches through a hole 8 through the rear side 6 of the back support 2. When fastened and tightened, the seat belt 42 securely fastens the back support 2
30 and the integrally attached leg support 3 to the vehicle seat 40. As shown, the safety device is held in place on the vehicle seat 40 by the seat belt 42 of

the vehicle much like typically available car seats for children. A soft, cushioned fabric may be placed over the back support 2 and leg support 3.

Another embodiment of the present invention is shown in FIG. 5.

FIG. 5 shows the present invention all integrated on the back support 2.

- 5 The leg straps 9, 11 are attached by threading through slits or holes 19, 21 on the bottom of the back support 2. The leg straps 9, 11 and upper torso straps 5, 7 secure a body as described above but are all attached on the same back support 2. The back support 2 is attached to a vehicle seat as also described above.

- 10 The present invention allows a pregnant woman, or other user with a sensitive abdomen area, to be more comfortably and safely restrained in a moving vehicle.